

Work Order ID 52334

Tuesday, September 22, 2009 10:00:41 AM



Page 1

Item ID: D212-664-101

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 9/23/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/13/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

PD MW

Date:

09-22

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D212-664-141	Rev C								

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-101 CHG003

8/01/06

110

0.00



Pick Kit

Packaging

Memo

0.00

Packaging

Packaging

9/10/01 QD SP

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio FT015

MB 09-09-25

Work Order ID 52334

Tuesday, September 22, 2009 10:00:41 AM

Page 2

Item ID: D212-664-101

Accept

Revision ID: C

Item Name: Crosstube Fwd

Start Date: 9/23/2009 Start Qty: 1.00

Required Date: 10/13/2009 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

140

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549

2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

MS
09-09-24

AWM 9-9-24

Work Order ID 52334

Tuesday, September 22, 2009 10:00:42 AM



Page 3

Item ID: D212-664-101

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Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 9/23/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/13/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

Chemical Conversion Coat within 24 hours of bending and drilling

1 0 - Always 9-24

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

2) 50/10/28



/

170

Outsource process - NDT per QSI038 4.1

0.00



Outsource2

Memo

0.00

Outsource process - NDT

Liquid Penetrant Inspection as per QSI 038
Issue P/O: 10482
LPI as per ASTM 1417 Level 2
Attach copy of NDT results to work order

CZ 09/09/28 ①

Work Order ID 52334

Tuesday, September 22, 2009 10:00:42 AM



Page 4

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Start Date: 9/23/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/13/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	Receive & Inspect for Damage & Mat'l Certs Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
190 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control	Inspect for damage & ensure results are as per Dwg D212-664-141								

9/23/28 (U)

09 09 28 (U)

Work Order ID 52334

Tuesday, September 22, 2009 10:00:42 AM



Page 5

Item ID: D212-664-101

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Item Name: Crosstube Fwd

Start Date: 9/23/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/13/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

200

Spray Painting per QSI005 4.2

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2
2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 7:30

Finish Time: 8:30

PAINT:

Start Time: 3:00

Finish Time: 4:15

RT 09-09-29

RT 09-09-29

210

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

ml 09 09 30 (1)

Work Order ID 52334

Tuesday, September 22, 2009 10:00:42 AM

Page 6

Item ID: D212-664-101

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Start Date: 9/23/2009 Start Qty: 1.00

Required Date: 10/13/2009 Req'd Qty: 1.00

Reference:

Cust Item ID:




Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220  Crosstubes	Crosstubes	0.00				<u>ml</u>	<u>09</u>	<u>09</u>	<u>30</u> ①
Crosstubes	Memo 1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe 2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs A/R 6398 Magnobond Batch: <u>111049</u> <u>exp: 02/2010</u>	0.00							
230  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo <u>=> 502/10/01</u>	0.00				<u>④</u>	<u>④</u>		
240  Packaging	Pick Kit	0.00							
Packaging	Memo <u>9/10/11</u> <u>sq</u>	0.00							

> Torque: ml 09 10 01 ①

Work Order ID 52334

Tuesday, September 22, 2009 10:00:42 AM



Page 7

Item ID: D212-664-101

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Stop



Item Name: Crosstube Fwd

Start Date: 9/23/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/13/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC4- 100% Inspect kits for completeness

0.00

=> 801/10/01



QC

Memo

0.00



Quality Control

260

Packaging

0.00

200E



Packaging

Memo

0.00

9/10/02

10 50

Packaging

Identify and pack for shipping as per PPP D212-664-101

270

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

09/10/05

Quality Control

u 97.10.02

Picklist Print

Tuesday, September 22, 2009 10:02:13 AM

Page 1

Work Order ID: 52334



Parent Item: D212-664-101RevC



Parent Item Name: Crosstube Fwd

Start Date: 9/23/2009

Required Date: 10/13/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D212-664-101TRNRevC		Manufactured	No			110	Each	0.0000	1.0000			
Crosstube Turning Detail												
D3595-063-450RevA		Manufactured	No			230	Each	68.6689	4.2105			
RUBBER CUSHION												

B-51942 MB 09-09-23

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

63.7

50953

63.7

ml 09 09 30

Main Warehouse

ST

4.9689

38959

2

43210

2.59

46465

0.3789

Picklist Print

Page 2

Tuesday, September 22, 2009 10:02:13 AM

Work Order ID: 52334



Parent Item: D212-664-101RevC



Parent Item Name: Crosstube Fwd

Start Date: 9/23/2009

Required Date: 10/13/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21920-25		Purchased	No			220	Each	159.0000	4.0000			
Clamp(per MIL-DTL-8783C)												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	159	
107456	2	
108111	3	
108975	17	
109181	48	
109644	10	
111282	4	
<u>111429</u>	25	
112495	50	

ml 09 09 30

D2893-1RevB

Manufactured No

220

Each

48.0000

2.0000



2.75 Support

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	48	
25657	6	
<u>46488</u>	4	
47109	18	
47637	20	

ml 09 09 30

Picklist Print

Tuesday, September 22, 2009 10:02:13 AM

Work Order ID: 52334



Parent Item: D212-664-101RevC



Parent Item Name: Crosstube Fwd

Start Date: 9/23/2009

Required Date: 10/13/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3428-1RevA

Manufactured

No

240

Each

29.0000

1.0000



Placard

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST096

29

50790

29

1 50

AN6-35A

Purchased

No

240

Each

86.0000

4.0000



BOLT

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

86

112314

86

4 50

AN6-36A

Purchased

No

240

Each

121.0000

4.0000



Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

121

109632

1

110382

2

111650

18

112314

100

4 50

Picklist Print

Tuesday, September 22, 2009 10:02:13 AM

Work Order ID: 52334



Parent Item: D212-664-101RevC



Parent Item Name: Crosstube Fwd

Start Date: 9/23/2009

Required Date: 10/13/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21042L6		Purchased	No			240	Each	709.0000	6.0000			
Nut												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	709
105077	22
110002	5
111548	82
111578	400
112492	200

6 / 30

AN960JD616

Purchased

No

240

Each

668.0000 18.0000



Washer



9/20/09

Warehouse Loc Qty Loc Code

Location

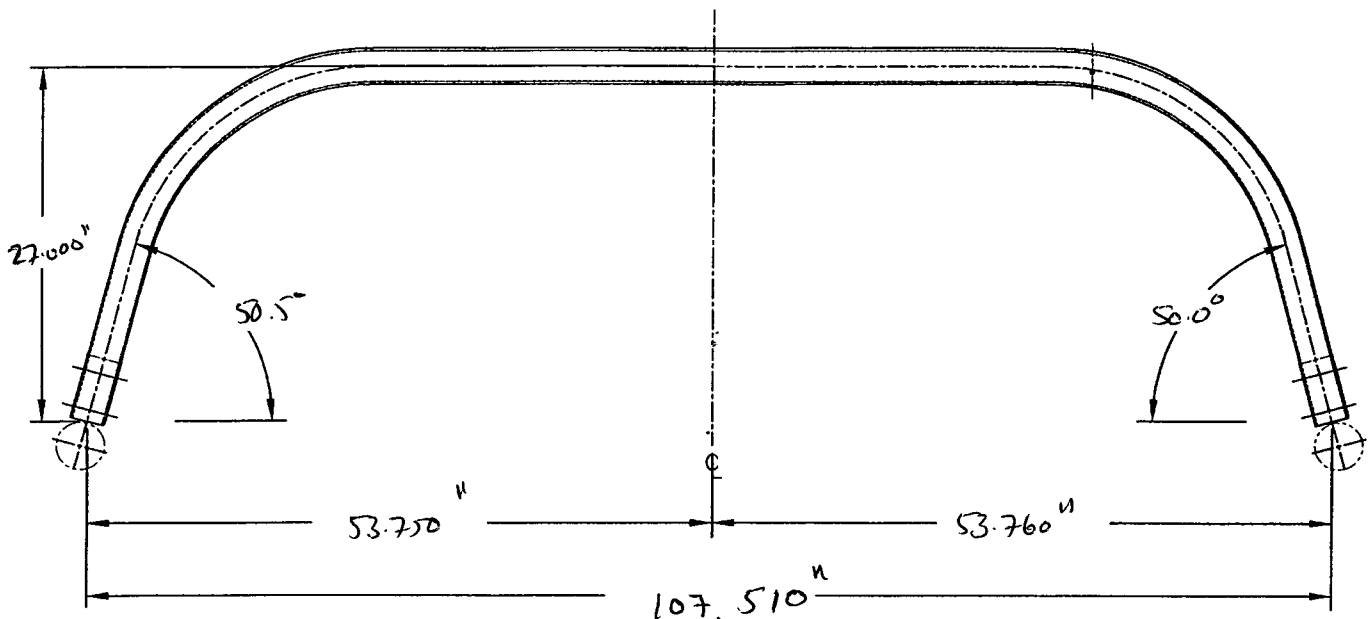
Main Warehouse

ST	668
107242	3
107959	6
109371	8
110704	23
111193	10
111607	4
112314	614

18 / 54

DART AEROSPACE LTD		Work Order:	52334
Description: Crosstube High Fwd (205/212/412)		Part Number:	D21-664-101
Inspection Dwg: D212-664-141 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	26.79	27.05
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7



Comments

QC15 Inspection	S
Date	07/05/23

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.31	Dimensions updated per Dwg Rev C	KJ/JM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED QP	APPROVED [Signature]	DRAWING NO. D212-664-141	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE XTUBE ASS'Y (205/212/412 HI FWD)	SCALE NTS
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

RELEASED
07.04.24 **[Signature]**

DEO ATTACHED

Qty	Part Number	Description
X	D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
1	D6005-128	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP (OR MS21920-26)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

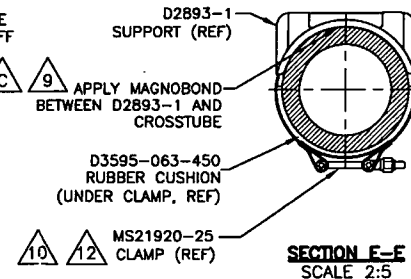
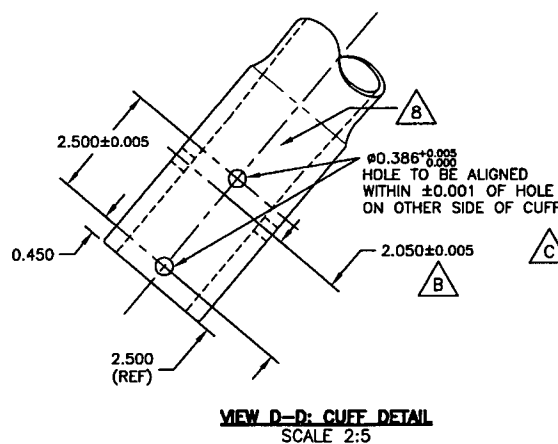
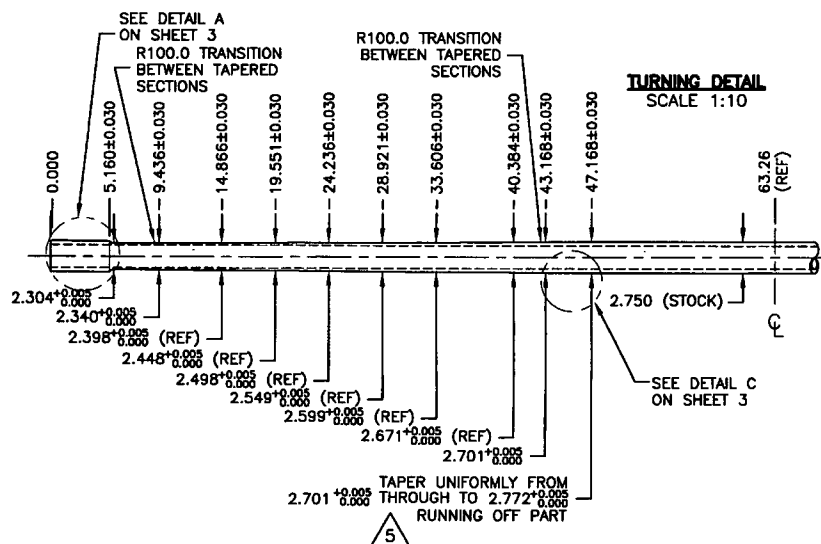
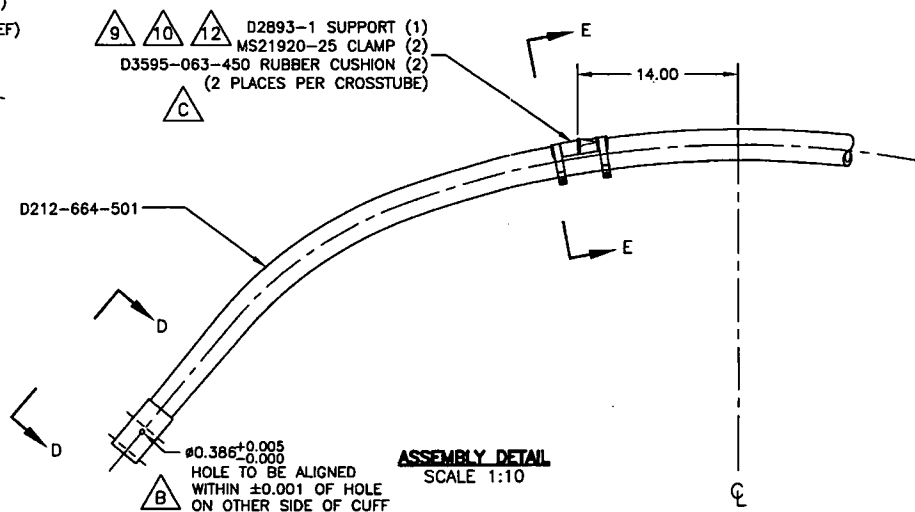
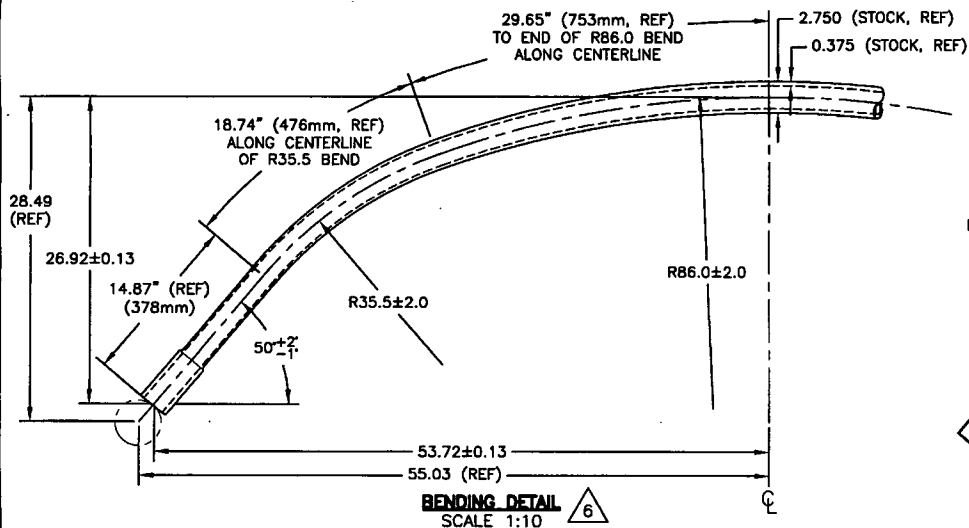
GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.51±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 52334

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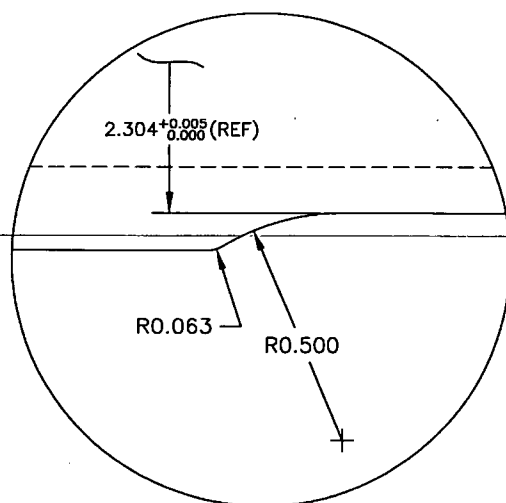
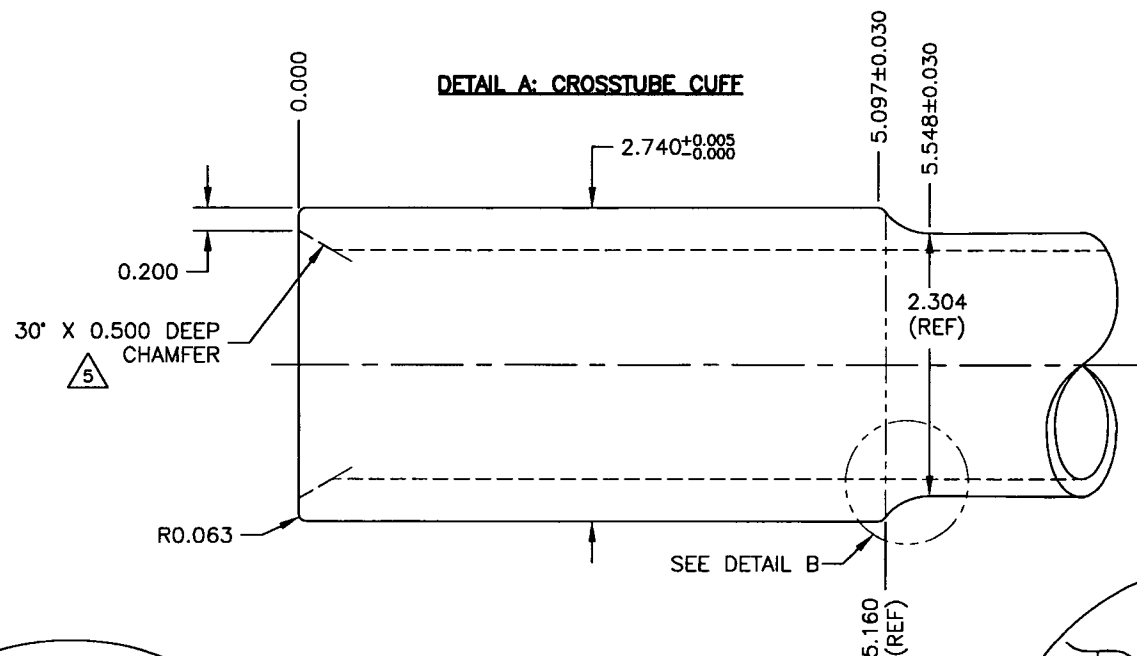
RELEASED
07.04.24
SEO ATTACHED

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. WARRICKBURY, OXFORD, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	APPROVED	DRAWING NO.	REV. C
		DATE		D212-664-141	SHEET 2 OF 3
		07.03.08		TITLE	SCALE
				XTUBE ASS'Y (205/212/412 HI FWD)	1:10

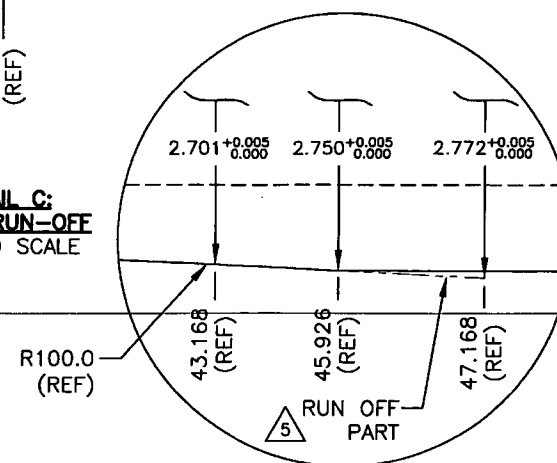
W/B 52834

RELEASED
 87.04.24 (P)
 PER ECL 997

DEO ATTACHED



DETAIL C: TAPER RUN-OFF
 NOT TO SCALE



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DESIGN PH	DRAWN BY PH	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED J	APPROVED [Signature]	DRAWING NO. D212-664-141	REV. C SHEET 3 OF 3
DATE 07.03.08	TITLE XTUBE ASS'Y (205/212/412 HI FWD)	SCALE 1:1	

W/O 52334

DRAWING NO. D212-664-141	TITLE CROSSTUBE	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D212-664-141-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>AD</i>	CHECKED <i>RB</i>	MFG. APPR. <i>CE</i>	APPROVED <i>MD</i>		DE APPR. <i>MD</i>		
DATE 09.05.01	DATE 09.06.15	DATE 09.06.15	DATE 09/06/16		DATE 09/06/16		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)

THE D212-664-141B CROSSTUBE HAS THE SAME PARTS LIST AS THE D212-664-141 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D212-664-141 CROSSTUBE.

RELEASED
07/06/22

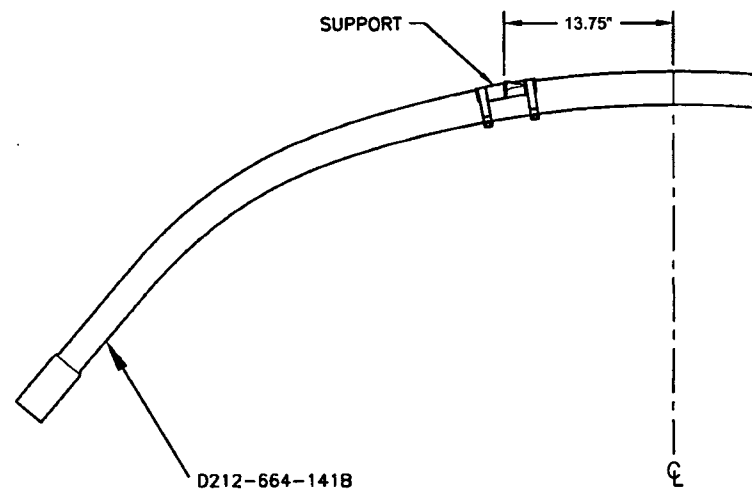


FIGURE 1 - SUPPORT INSTALLATION

W/O 52334

5.0 PARTS LIST

REFERENCE ONLY

5.1 HIGH GEAR CROSSTUBES

Item	-101	-201	-203	Part Number	Description
	X			D212-664-101	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
		X		D212-664-201	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
			X	D412-664-203	CROSSTUBE INSTALLATION, 412 HIGH AFT
1	1			D212-664-141	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
2		1		D212-664-241	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
3			1	D412-664-243	CROSSTUBE ASSEMBLY, 412 HIGH AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-141/-241 OR D412-664-243 ASSEMBLIES ABOVE
NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA
SKIDTUBES.

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Revision: F
Date: 08.09.05

52234



LIQUID PENETRANT TEST REPORT

P- 14954

DATE SEPT 28-2009 PAGE 1 OF 1
ION LINDA/CHANTEL ACUREN JOB NO. 188-09-001561
IS 1270 ABELDEEN ST. POWO No. - 10482
HAWKES BURY ON. WORK LOCATION HAWKES BURY
K6H 1K7 ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
T F.P.I. ON MACHINED PARTS AND
EXAMINED CROSS TUBES.

DESCRIPTION STAINLESS STEEL AND PROCEDURE No. LT0002 REV./DATE TECHNIQUE No. LTech 2 REV./DATE
D. WET FLUORESCENT LIQUID PENETRANT INSPECTION MATERIAL ALUMINUM THICKNESS -
CARRIED OUT 100% EXTERNAL

DETAILS
☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
BRAND 2LG7 - MAGNA FLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
ANT 2LG7 MINIMUM DWELL TIME 10 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
ANT REMOVER H2O MINIMUM DRY TIME > 10 MIN. OTHER LABINO
PER SKO 52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE DEC 8-2009
PER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

SURFACE
E CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
E TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F
TS- ☒ METRIC ☐ IMPERIAL

- W.O. 51882 - CROSS TUBE ✓
- W.O. 51881 - CROSS TUBE ✓
- W.O. 52334 - CROSS TUBE ✓
- W.O. 52335 - CROSS TUBE ✓
- W.O. 52495 - MOUNTS ✓
- W.O. 51096 - MOUNTS ✓
- W.O. 51097 - MOUNTS ✓

- AN INSPECTION WAS DONE
ON W.O. 52470 -
ONE ITEM WAS REWORKED
DUE TO HOLE SIZE AT
BRACKET.
- EXAMINATION OF THIS
AREA WAS CARRIED OUT
AND RESULTS AS FOLLOWS
- FOUND ACCEPTABLE TO CODE
MM 09 09 28

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REPRESENTATIVE Eric Downing DTR # E-27840
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(PRINT): Mike Johnston NAME INITIALS
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